STATUS REPORT ON NEW FEDERAL NO_2 MONITORING REQUIREMENTS

Air Resources Board
Planning and Technical Support Division

July 22, 2010
Sacramento, California

Presentation Outline

- **Background**
- **New Monitoring Requirements**
- **Implications of New Monitoring Requirements**

New Federal NO_2 Standard

- **New 1-hour standard of 100 ppb**
- **Retained existing annual standard of 53 ppb**
- **New health studies show impacts at lower levels**
- **Peer review by Clean Air Scientific Advisory Committee (CASAC)**

Recent Health Evidence

- **Previous reviews**
  - **Respiratory illness in children with long-term exposure**
  - **Limited short-term exposure data**
- **New evidence**
  - **Studies show associations between short-term exposure and respiratory symptoms**
  - **Additional evidence of impacts in children from short-term exposures**

Health Basis for NO_2 Standards

- **Long-term exposure**
  - **Respiratory illness in children**
  - **Decreased lung function growth in children**
- **Short-term exposure**
  - **Respiratory symptoms**
  - **More ER visits and hospitalizations**
  - **Increased airway response in asthmatics**

NEW MONITORING REQUIREMENTS

New Monitoring Requirements

- **Near-roadway monitors**
  - **Population > 500,000**
  - **Monitors within 165’ of roadway**
  - **Located in highest traffic areas**
- **Monitors to evaluate communitywide exposure**
- **Limited monitoring near susceptible and vulnerable populations**

U.S. EPA's Rationale

- **Community monitors do not capture peak concentrations**
  - **Near-roadway concentrations could be as much as two times higher**
- **Purpose of near-roadway monitors**
  - **Protect against peak concentrations**
  - **Further reduce communitywide concentrations**

New Focus

- **Historically based on community exposure studies**
- **Current monitoring network reflects communitywide concentrations**
- **New requirements focus on sources**

CASAC Perspective

- **Majority support near-roadway monitoring**
- **Continuing concerns**
  - **Health studies based on community monitors**
  - **Using these studies to establish near-roadway standard**
  - **Variable relationship between near-roadway and communitywide concentrations**

IMPLICATIONS OF NEW MONITORING REQUIREMENTS

Districts Requiring Near-Roadway Monitors

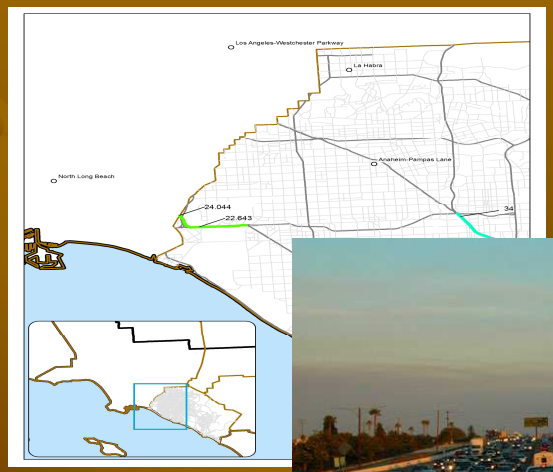
Area	Monitors Needed
South Coast	4
San Joaquin	4
Bay Area	3
Sacramento/Placer	2
San Diego	2
Ventura	1
Total	16

High Traffic Roadways

- **Road segments with highest average daily traffic count**
- **Congestion, vehicle mix, and roadway design**
- **Will include California's most heavily traveled freeways and freeway interchanges**

Examples of High Traffic Roadways

Air Basin	County	Roadway
South Coast	Orange	I-405 at I-605 & CA-22
San Joaquin	Fresno	CA-180 at Jct. 41 & 186S
San Diego	San Diego	I-15 Jct. 163 & Miramar Way



Monitor Siting Issues

- **Cost of new network**
- **Logistical issues and safety concerns**
- **Variable road conditions**

Monitoring Costs

- **Lease, power, equipment, personnel**
- **Estimated set-up cost about $100,000**
- **Will vary, depending on location**
- **Expect U.S. EPA will provide partial funding**

Logistical Issues and Safety Concerns

- **Limited space**
- **Right-of-way/access issues**
- **Coordinating and permitting**
- **Potential for vandalism**

Variable Roadway Conditions

- **Vehicle mix**
- **Congestion patterns**
- **Roadway elevation**
- **Presence of soundwall**
- **Predominant wind direction**

Early Implementation

- **U.S. EPA will provide equipment funding**
- **Some California agencies may participate**
- **May also include monitoring for other pollutants**

Designation Process

- **Existing data show no violations statewide at community level**
- **EPA will designate all areas unclassified**
- **Near-roadway monitors may show nonattainment in some areas**
- **Designations revisited in 2016-2017**

Future Board Item

- **State designation recommendations due January 2011**
- **Staff will bring recommendations to Board later this year**